

IN THE CLAIMS:

Please amend the claims as shown below. The claims, as currently pending in the application, read as follows.

1. (Currently Amended) An interface apparatus for inputting information from an external apparatus, comprising:

a first circuit for, in a case where there is a change in information input from the external apparatus, fetching the information after an elapse of a predetermined time; and

a second circuit for determining whether the information fetched by the first circuit ~~matches a protocol of the information input from the external apparatus~~ is the same as information fetched by the first circuit a previous time, and when the information fetched by the first circuit ~~is matched with the protocol of the information input from the external apparatus~~ is not the same as the information fetched by the first circuit the previous time, outputting the fetched information, and

wherein, when the information fetched by the first circuit ~~is not matched with a protocol of the information input from the external apparatus~~ is the same as the information fetched by the first circuit the previous time, the second circuit does not output the fetched information.

2. (Previously Presented) An apparatus according to claim 1, wherein said first circuit comprises:

a change detector for outputting a reset in the case where there is a change in the information input from the external apparatus;

a timer for inputting the reset output by the change detector and outputting a trigger after the elapse of the predetermined time from the input of the reset; and

a latch for inputting the trigger output by the timer and fetching the information.

3. (Previously Presented) An apparatus according to claim 1, wherein the external apparatus forms the information such that information is non-continuous information.

4. (Previously Presented) An apparatus according to claim 1, wherein the information which is input from the external apparatus is input to the first circuit and the information fetched by said first circuit is input to the second circuit.

5. (Currently Amended) A printer comprising:

a first circuit for, in a case where there is a change in information input from an external apparatus, fetching the information after an elapse of a predetermined time;

a second circuit for determining whether the information fetched by the first circuit ~~matches a protocol of the information input from the external apparatus~~ is the same as information fetched by the first circuit a previous time, and when the information fetched by the first circuit ~~is matched with the protocol of the information input from the external apparatus~~ is not the same as the information fetched by the first circuit the

previous time, outputting the fetched information, and wherein, when the information fetched by the first circuit ~~is not matched with the protocol of the information input from the external apparatus~~ is the same as the information fetched by the first circuit the previous time, the second circuit does not output the fetched information; and

a printer engine for printing the information output by the second circuit.

6. (Currently Amended) An information processing method for inputting information from an external apparatus, comprising:

a first step of, in a case where there is a change in information input from the external apparatus, fetching the information after an elapse of a predetermined time; and

a second step of determining whether the information fetched by the first step ~~matches a protocol of the information input from the external apparatus~~ is the same as information fetched by the first step a previous time, and when the information fetched the first step ~~is matched with the protocol of the information input from the external apparatus~~ not the same as the information fetched by the first step the previous time, outputting the fetched information, and

wherein, when the information fetched in the first step ~~is not matched with the protocol of the information input from the external apparatus~~ is the same as the information fetched by the first step the previous time, the second step does not output the fetched information.

7. (Previously Presented) A method according to claim 6, wherein said first step comprises:

a change detecting step of outputting a reset in the case where there is a change in the information input from the external apparatus;

a timer step of inputting the reset output by the change detecting step and outputting a trigger after the elapse of the predetermined time from the input of the reset; and

a latch step of inputting the trigger output by the timer step and fetching the information.

8. (Previously Presented) A method according to claim 6, wherein the external apparatus forms the information such that same information does not continue.

9. (Previously Presented) A method according to claim 6, wherein the first step is executed by a glitch noise filter and the second step is executed by a logical filter.

10. (Currently Amended) A printing method comprising:

a first step of, in a case where there is a change in information input from an external apparatus, fetching the information after an elapse of a predetermined time;

a second step of determining whether the information fetched in the first step matches a protocol of the information input from the external apparatus is the same as information fetched by the first step a previous time, and when the information fetched in the first step is ~~matched with the protocol of the information input from the external~~

~~apparatus the not the same as the information fetched by the first step the previous time,~~  
outputting the fetched information, and wherein, when the information fetched in the first  
step is ~~not matched with the protocol of the information input from the external apparatus~~  
~~is the same as the information fetched by the first step the previous time,~~ the second step  
does not output the fetched information; and

a step of printing the information output in the second step.

11. (Previously Presented) An apparatus according to claim 1, wherein, if  
the fetched information continuously repeats a same value, said second circuit skips the  
fetched information.

12. (Previously Presented) A method according to claim 6, wherein, if the  
fetched information continuously repeats a same value, said second step skips the fetched  
information.

13. (Canceled)

14. (Currently Amended) An interface apparatus for inputting information  
from an external apparatus, comprising:

a change detector for detecting a change in information input from the  
external apparatus and outputting a reset upon the detection of the change;

a timer for inputting the reset output by said change detector and outputting  
a trigger after an elapse of a predetermined time from the input of the reset;

a latch for inputting the trigger output by said timer and fetching information input from the external apparatus upon the input of the trigger; and

a logical filter for determining whether the information fetched by the said latch matches a protocol of the information input from the external apparatus is the same as information fetched by said latch a previous time, and when the information fetched by said latch ~~is matched with the protocol of the information input from the external apparatus is not the same as the information fetched by said latch the previous time~~, outputting the fetched information, and wherein, when the information fetched by said latch ~~is not matched with the protocol of the information input from the external apparatus is the same as the information fetched by said latch the previous time~~, said logical filter does not output the fetched information.

15. (Currently Amended) An interface apparatus for inputting information from an external apparatus, comprising:

a timer for timing a predetermined time;

a comparator for making a comparison between a length of a low level state in ~~input~~ information input from the external apparatus within the predetermined time timed by said timer, and a length of a high level state in the ~~input~~ information within the predetermined time, and for outputting a low level signal if the comparison shows that the length of the low level state is longer than the length of the high level state, and outputting a high level signal if the comparison shows that the length of the high level state is longer than the length of the low level state; and

a logical filter for determining whether information indicated by the signal output by said comparator ~~matches a protocol of the information input from the external apparatus~~ is the same as information indicated by the signal output by said comparator a previous time, and when the information indicated by the signal output by said comparator ~~is matched with the protocol of the information input from the external apparatus~~ is not the same as the information indicated by the signal output by said comparator the previous time, outputting the indicated information, and

wherein, when the information indicated by the signal output by said comparator ~~is not matched with the protocol of the information input from the external apparatus~~ is the same as the information indicated by the signal output by said comparator the previous time, said logical filter does not output the indicated information.

16. (Previously Presented) An apparatus according to claim 15, wherein said timer outputs a trigger after an elapse of the predetermined time from a delimiter existing in the input information, and said comparator inputs the trigger and makes the comparison in accordance with the trigger.